



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,074	11/17/2003	Kia Silverbrook	ZG147US	9622
24011	7590	04/07/2004	EXAMINER	
SILVERBROOK RESEARCH PTY LTD			DO, AN H	
393 DARLING STREET			ART UNIT	
BALMAIN, 2041			PAPER NUMBER	
AUSTRALIA			2853	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/713,074	Applicant(s) SILVERBROOK, KIA	
	Examiner An H. Do	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/129,433.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>17 November 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/129,433, filed on 06 May 2002.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 17 November 2003 was filed and is being considered by the examiner.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Figure 2, element 23 and Figure 4, element 14. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:
 - Insert --, now U.S. Patent No. 6,672,707.-- in line 1 on page 1 after "May 6, 2002".
 - On page 4, line 17, change "metal chassis (1)" to --metal chassis (3)--.Appropriate correction is required.

Claim Objections

5. Claims 1, 3-6 and 8 are objected to because of the following informalities:

In claim 1:

-Change “an engagement plate” in line 11 to --the engagement plate-- to support antecedent basis.

In claim 3:

-Change “a printhead module” in line 1 to --the printhead module-- to support antecedent basis.

-Change “a module engagement plate” in line 4 to --the module engagement plate-- to support antecedent basis.

In claim 4:

-Change “a printhead module” in line 1 to --the printhead module-- to support antecedent basis.

-Change “a module engagement plate” in line 2 to --the module engagement plate-- to support antecedent basis.

In claim 5:

-Change “a module engagement plate” in line 2 to --the module engagement plate-- to support antecedent basis.

In claim 6

-Change “a printhead chip” in line 2 to --the printhead chip-- to support antecedent basis.

In claim 8:

-Change "a module engagement plate" in line 2 to --the module engagement plate-- to support antecedent basis.

Appropriate correction is required.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1 and 5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7 of U.S. Patent No. 6,672,707 in view of Thiel et al (US 5,646,658).

Claims 1 and 7 of U.S. Patent No. 6,672,707 discloses a modular printhead for a digital printer, the modular printhead comprising:

- a plurality of printhead modules;
- a support frame, the frame having a plurality of module engagement plates (mounting sites) provided with an adjustment mechanism;
- means to engage a printhead module with a corresponding module engagement plate of the support frame; wherein:
 - the adjustment mechanism is adapted to effect minute adjustments of the position of the corresponding printhead module with respect to the frame (claim 1); and
 - the adjustment mechanism includes an input lever fulcrumed against the support frame for acting on a module engagement plate, the module engagement plate being connected to the support frame by hinged link arms such that the resilient movement of the plate is substantially linear (claim 5).

Claims 1 and 7 of U.S. Patent No. 6,672,707 discloses the claimed invention except for reciting:

- a reservoir moulding for storing ink;
- at least one ink communication channel provided for each printhead module, the at least one ink communication channel adapted to facilitate ink flow from the reservoir moulding through an engagement plate and into the respective printhead module;

However, Thiel et al teaches the following claimed features:

- a reservoir moulding (Figures 5a and 5c, element 15) for storing ink; and
- at least one ink communication channel (13) provided for each printhead module (1), the at least one ink communication channel (13) adapted to facilitate ink flow from the reservoir moulding (15) through an engagement plate (41, 42) and into the respective printhead module (1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a reservoir moulding for storing ink; and at least one ink communication channel provided for each printhead module, the at least one ink communication channel adapted to facilitate ink flow from the reservoir moulding through an engagement plate and into the respective printhead module, as taught by Thiel et al, for the purpose of supplying ink to the printhead module.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Thiel et al (US 5,646,658).

Thiel et al discloses in Figures 1-5c a modular printhead (1) comprising the following features:

- a plurality of printhead modules (1);

-a support frame (36), the frame having a plurality of module engagement plates (41, 42) provided with an adjustment mechanism (28);

-means (23-26) to engage a printhead module (1) with a corresponding module engagement plate (Figure 1d) of the support frame; wherein:

-the adjustment mechanism (28) is adapted to effect minute adjustments of the position of the corresponding printhead module (1) with respect to the frame (36); and

-the adjustment mechanism includes an input lever fulcrumed against the support frame for acting on a module engagement plate (41, 42), the module engagement plate being connected to the support frame (36) by hinged link arms (38) such that the resilient movement of the plate is substantially linear (Figure 3a).

a reservoir moulding (Figures 5a and 5c, element 15) for storing ink;

-at least one ink communication channel (13) provided for each printhead module (1), the at least one ink communication channel (13) adapted to facilitate ink flow from the reservoir moulding (15) through an engagement plate (41, 42) and into the respective printhead module (1).

-operation of the adjustment mechanism effects abutment of adjacent printhead modules (Figure 3a); and

-metallic chassis frame (column 6, lines 43-48); and the engagement plate (41, 42) is integrally formed (column 6, lines 59-65) with the metallic chassis via hinged arms (38).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel et al (US 5,646,658) in view of Sellen et al (US 4,338,610).

Thiel et al disclose the claimed invention except for reciting an elastomeric strip.

However, Sellen et al teaches in Figure 3 an elastomeric strip (87) as a gasket (column 2, lines 65-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have an elastomeric strip, as taught by Sellen et al, for the purpose of preventing printing fluid leakage at the module interface as noted in column 3, lines 1 and 2 of Sellen et al.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel et al (US 5,646,658) in view of Chan et al (US 5,016,023).

Thiel et al disclose the claimed invention except for reciting each printhead module includes a printhead chip bonded to a tape automated bond (TAB) film.

However, Chan et al teaches in Figure 3 each printhead module includes a printhead chip (62) bonded to a tape automated bond (TAB) film (68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have each printhead chip bonded to a tape automated bond

(TAB) film, as taught by Chan et al, for the purpose of providing power, ground, clock, enable and data signal inputs from an external signal or power source to the plurality of ink jet printheads as noted in column 2, lines 4-14 of Chan et al.

13. Claims 3, 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel et al (US 5,646,658) in view of Sugitani et al (US 4,611,219).

Thiel et al disclose the claimed invention except for reciting the printhead module is provided with four ink funnels.

However, Sugitani et al teaches in Figure 3 the printhead is provided with four ink funnels (4-1, 4-2, 20-1, 20-2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the printhead with four ink funnels, as taught by Sugitani et al, for the purpose of providing multicolor or full-color recording by introducing separately different color inks into the print head as noted in column 3, lines 57-62 of Sugitani et al.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fabbri (US 6,068,367) discloses in Figures 1-3 a modular printhead (1) having a support frame (3) and a plurality of printhead modules (5), the frame (3) having a plurality of mounting sites (column 4, lines 45-51) for mounting respective printhead modules (5) to the frame (3). Kubatzki et al (US 5,850,240) discloses an ink jet head is composed of three identical ink printer modules (1, 3, 5) and two identical spacer parts (2, 4) respectively arranged between them. Crystal et al (US 6,290,332 B1) discloses a reciprocating carriage assembly having twelve individual ink

Art Unit: 2853

jet pen receptacles and a manual vertical adjustment feature so that precision control of critical printing parameters is easily practiced.

Contact Information

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to An H. Do whose telephone number is 571-272-2143.

The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



An H. Do
April 2, 2004